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ABSTRACT

This report discusses the implementation of DOBIS, an online, integrated library system run on a shared-use mainframe computer, at the British Columbia Institute of Technology (BCIT) Library during 1984 and 1985. General information about BCIT, the library, and DOBIS is provided, and the project background is discussed. An overview of the implementation plan for the first year of the project describes the use of project management techniques, the conversion process, the training of the cataloging staff and loading of catalog records, and the development of the public access catalog. Activities covered in the second-year implementation plan include writing a program to load borrowers' information into DOBIS, barcoding 150,000 books in-house, and cataloging technical documents as brief records, using terms from the title to provide keyword access. It is concluded that the implementation of DOBIS was a positive experience and that DOBIS will be an integral part of BCIT's future development. (KM)

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The Implementation of DOBIS/LEUVEN at the British Columbia Institute of Technology Library

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Presentation to the ICX Seminar

La Hulpe, Belgium, June 17-19, 1985

by

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BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

General Information

Opened:	1964
Number of full-time students:	4,300
Number of part-time registrants:	27,000
Number of faculty:	570

BCIT offers 2 year programs leading to a Diploma of Technology. Types of programs:

School of Engineering Technology:
building, civil, electrical/electronics
mining, CAD/CAM, forestry

School of Health Sciences:
biological electronics, nursing,
nuclear medicine

School of Management:
broadcasting, computer systems,
marketing, hospitality and tourism

B.C.I.T. Library

Number of Librarians:	8	
Number of Support staff:	21	
Titles in DOBIS:	113,000:	books, AV, periodicals, gov documents
Titles in KWIC/KWOC:	30,000:	reports
Titles/year added:	10,000	
Subscriptions:	4,000	
Circulations/year:	200,000	
Library hours/week:	83	

DOBIS Information

Implementation History:

1974.....Mohawk batch circulation system
1977-79..Conversion of card catalogue to machine readable format, using UTLAS database and cataloguing system. 75,000 records converted. Card catalogue replaced by COM
Nov 1979.....Received overview of DOBIS from IBM Canada
Nov 1980.....Library automation report completed, giving general specifications for an integrated library system
Oct 1982.....Cost/Benefit analysis comparing costs of cataloguing on UTLAS versus DOBIS
Jan 1983.....RFP (Request for proposal, or tender document) released.
Fall 1983.....Working visit to DOBIS site in Italy
Jan 1984.....Institute gives approval to purchase
Feb 1984.....Steering committee and Project Team established
Mar 1984.....Installed DOBIS/LIBIS 1.3
Sept 1984.....Database load of all 110,000 catalogued records (2 months)
Oct 1984.....On-line cleanup of 150,000 copy records and any rejected records
Oct 1984.....Installed 6 public access terminals
May 1985.....150,000 copy specific barcodes placed in books
June 1985.....Implementation of circulation

Current File Sizes:

Full documents	116,482
Local copies	262,878
Shelf list file	113,562
Class no.	34,487
Subject headings	70,888
Names	191,218
Titles	541,967
LC Nos.	79,356
ISBN	71,383
Publishers	4,959
Borrowers	3,789
Stopwords	157

Systems Information:

The Library's needs are provided by the Computing Centre which is an IBM shop. Other major users include the Student Information System, the Financial System, Personnel System, and Profs.

The Library has currently the following share of the resource which is a 3083 EX

a) 3%-8% of 4.0 MIPS (i.e., 4% of the total cpu)
b) 1 megabyte of read memory
c) 1.5 MB of virtual address space
d) 600 MB of disk space (450 MB=DOBIS files, 150 MB=work files and libraries)

We currently have 6 public service terminals plus 10 backup terminals.

We are currently running 3 VSE systems under VM. We are going to VSE/SP 1.2.1 this summer. This will give us more memory space to our 5 CICS partitions, one of which is DOBIS. DOBIS operates under DOS/VM.

BACKGROUND
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The planning for an integrated automated library system for BCIT goes back many years. Our first experience with automation came in 1974 with the installation of a batch circulation system. In 1977 we started automated cataloguing using the UTLAS system. At this time we converted the entire card catalogue to machine-readable form and UTLAS produced our first microfiche catalogue.

The shortcomings of both systems became clearer. Our circulation system was dying. The cataloguing service we used was very expensive, especially COM, and was not very flexible.

Before the Library began to outline its automation needs, the Institute stated that all systems had to operate on the IBM mainframe, then a 4341. Happily for us, our options were thus limited. We outlined our requirements in a report and prepared a tender document, which went out in early 1983. The only acceptable submission was from IBM.

The department of Computer Resources and the Library held several meetings with IBM to discuss problems and questions arising out of the proposal. I began to phone and write to most North American users of DOBIS. These contacts have proved very

useful in our subsequent installation. The most important initially was the University of Alberta which gave us a conversion program to load UTLAS records into DOBIS. IBM also offered us the services of someone from IBM who was familiar with DOBIS installation, for a fee of $10,000 (Can), for two weeks. I suggest that phone calls to other sites are much cheaper.

Before the Institute gave final approval, we went through additional steps. The Library did a cost/benefit analysis, which substantiated the financial argument for purchasing DOBIS. The problems we forsaw in DOBIS with COM catalogue production could be resolved by using the public access module availible in release 1.3. Since public access had not been part of our original scope, Computer Resources needed to investigate the impact of this on the whole system.

Early in 1983, I decided to take a sabbatical leave to study DOBIS. With the assistance of IBM Canada I made contact with Francesco dell'Orso of the University of Perugia. I was kindly allowed to work there for two months in the fall of 1983. This experience was invaluable. I also visited several other Italian sites, including the ENEA, also represented here. On my return home, I spent two days in Leuven, where Mr. Regent took good

care of me. I came back to Vancouver even more convinced that DOBIS was the way for BCIT to go.

Let me summarize up to this point. The Library had a mandate to go IBM. We wanted an integrated system. We had financial justification. We had a conversion program. We knew we could get help from DOBIS users. And we were getting an on-line public access catalogue that we had not listed as a requirement!

IMPLEMENTATION PLAN : FIRST YEAR

In January 1984, the Institute gave final approval for the purchase of DOBIS. A project team was established, made up of myself, a systems analyst and a systems programmer. A small steering committee oversees the project. It is made up of the Director of the Library, the Manager of Computer Resources, the assistant librarian, and the project team.

Three aspects stand out in our implementation philosophy. The first is that, from the start, the Library was committed to not changing DOBIS. We were going to take off-the-shelf DOBIS and change library procedures and policy to fit the system. We knew we did not have the human resources to make any changes. We also knew that libraries ran into trouble every time they tried to modify DOBIS programs during implementation. It is difficult

for many librarians to live with such a philosophy. However, one and a half years into the project we have held to this committment.

Which brings me to the second point. The Library director gave the project team the authority to do the job. I'm not sure how libraries are managed in Europe, but in North America we are 'democratic' and often make decisions through library committees. I postulate that a democratic style is incompatible with installing computer systems.

My third point concerns the use of a project management approach. Those of you working with computer systems are perhaps familiar with this. I was not and I do not think most librarians have this experience. The project team's first job was to prepare a detailed activities list. This implementation plan took us a month to develop. It forced us to think about every task that needed to be done, how long it would take and who would do it. It is not, of course, carved in stone. We are constantly modifying it.

CONVERSION
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Apart from installing and testing the software, which did not present us with problems, our first major activity was the loading of our machine-readable records from an UTLAS MARC format into

DOBIS. As I mentioned before the University of Alberta gave us their conversion program, all 10,000 lines of COBOL, and told us it would take three months to load. One of the Alberta's programmers came out to Vancouver to help us with modifications; for example, Alberta did not catalogue serials and we wished to capture our serial holdings information. The assistance given to us by Alberta and other DOBIS users was fantastic. Mostly we communicated using ENVOY, an electronic messaging system.

The loading took two months. As soon as Computer Resources had established a routine and the operators were familiar with the loading process, the records were loaded at night. This left the system available to library staff and patrons during the day. As records were loaded, they were available. We had some rejects, but not many. We also lost most of our Publishers. We still do not know why.

CATALOGUING
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The Library's cataloguing staff was already trained in automated on-line cataloguing. As I suspected it did not take our staff very long to learn how to use DOBIS. Two weeks training was sufficient. One of the problems with our conversion program was that only single copy

records displayed correctly. In other words, where the library had two copies of a book, or holdings for ten years of a magazine, unique copy records for each of these had to be created. We had no way of flagging these records. The only way was to touch each of the 110,000 master records and correct the copy summary. Although this project took almost three months, it gave the staff a good introduction to the power of DOBIS. In no time at all staff were chaining commands and saving them in PF keys. We then had clean copy information which we would need to produce barcodes for the circulation system.

At this point I would like to say that the support staff have a positive attitude towards DOBIS. We have had no problems with introducing this new computer system to them. It is important to have staff, including librarians, that can type.

PUBLIC ACCESS
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Even before all the records were loaded, we installed public access terminals in the Reference area of the Library. We made no changes to the screens and provided no explanatory brochures. We wanted to see the response. The students, many of whom are already familiar with computer

terminals, seemed intrigued, challenged, and unafraid. They did have the usual problem of finding out where the book was located, but apart from that and occasional adventures into boolean searches on the letter 'e', they obviously prefer on-line to microfiche. As well, DOBIS is available all the time that the Library is open. Some librarians and faculty took longer to adapt, but we receive few complaints that cannot be dealt with in release 1.4.

We assigned two reference librarians to redesign the public access screens to better suit our needs. For example we will remove almost all text from the introductory screen and just have, "Welcome to BCIT DOBIS Press ENTER". The two librarians used an APPLE computer to work on these and the accompanying help screens. The changes will be implemented with 1.4. This project enabled us not only to use the expertise of reference staff but also served to involve them actively.

As backup for the on-line catalogue in the event of DOBIS downtime, we have our last COM catalogue. It is of course out of date. We do not intend to produce COM on DOBIS for a long time, if ever. Our institute has very little downtime, most of which is foreseen.

To summarize what we accomplished in the first

year. The entire database was loaded. There are six public access terminals and seven for staff. Cataloguing is in production and there are clean copy records. And we are still talking to each other.

IMPLEMENTATION PLAN : SECOND YEAR

In the last six months we began preparing for circulation, adding new material to the catalogue, and introducing our system to other libraries who might be interested in forming a network with BCIT.

CIRCULATION

We intend to write a program to load borrowers' information into DOBIS from the student record system. For the time being, keypunchers in Computer Resources, when their regular workload was low, have keyed in 4000 records from Library registration forms, to give us a borrowers' file.

Another activity we needed to do before circulation could be started was barcoding the books. The project team spent a long time looking

at all the options. The Institute printer could not produce readable barcodes. In the end we chose to change the code from Delta Distance to CODABAR. This meant ordering a different type of scanner and making minor changes to DOBIS. The labels for the main collection were ordered from the United States. For in-house barcoding, we bought a small Zebra barcode printer. We will use a program from the University of Calgary to pass the information from DOBIS to the printer.

BARCODING PROJECT
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When the tape was sent to the United States, we knew we would be receiving 150,000 barcodes (for books) to be delivered in call number order. Basically we developed a plan similar to one used by Ryerson Polytechnic in Toronto. We chose two weeks to barcode when few students would be on campus. We were not able to close the Library, but we did close the stacks where most of the books are located. Basic library services were maintained. Library staff were divided into 13 teams of two. Each team worked down a row, one person calling out the call number from the spine, one finding a match on the sheet of barcode labels. The label was stuck on the top right-hand side of the first page inside the book

if that was possible. Books without labels were removed onto a book-truck for later problem-solving. Left-over labels were sent to other locations for matching, and then checked against the current circulation file.

The project was completed in less than 2 weeks. Some people preferred to work alone after a few days. As morale boosters, because the work is very tiring and requires concentration, free t-shirts with the DOBIS logo were given to all barcoders. Free coffee was provided. A stereo system played music all day long and when the project was over, there was a wine and cheese party.

CATALOGUING
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One of the reasons we like DOBIS is that it has given us the freedom to catalogue technical documents as brief records and provide keyword access from the title. Students at BCIT (85% of them) search by subject and not by author or precise title. (By subjects I mean Library of Congress subjects). DOBIS now provides them with additional terms. We have increased the use of microfiche collections such as SAE (Society of Automotive Engineers) by entering thousands of them on DOBIS with title, date, and call number. It takes about one minute to enter each of these

records. We will do the same for selected NTIS documents on microfiche. We have also entered entire collections of standards, such as ANSI. What this means is that we are now able to give access to parts of our collection that were not used before because the paper indexes are so complicated.

As we are not yet in a network, I have given the highest authorization levels of cataloguing to all staff in cataloguing, once they have been trained of course. Mr. Regent describes a different practice at the University of Leuven.

NETWORKING
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BCIT is interested in networking. We are in the process of introducing other libraries to DOBIS. We would like to be able to share our resources with other technical, special, or academic libraries.

NEXT STAGE
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Once circulation is in production at the end of June, we will put in release 1.4, change the public access screens, implement Acquisitions, and then implement the Periodicals module.

Eventually faculty and staff will be able to access DOBIS from any of over 300 terminals. The reality of the electronic campus is here

and DOBIS is an integral part of our future development as an institute of technology.

CONCLUSION

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Our experience so far with DOBIS is positive. We are on schedule. We have administrative support, particularly with Computer Resources and most important the students, our customers, like it.